

F-1
cont

(b) a mercapto alkanol ester of a monocarboxylic acid
having the formula:

RCOOR'SH

wherein R is a linear or branched alkyl or alkenyl, aryl or
aralkyl containing at least two carbon atoms; and R' designates
a C₂ to C₁₈ alkylene.

At line 1 of claims 80 and 81, delete "79" and substitute
therefore -- 71 --.

85. (Amended) A vinyl halide resin composition
comprising:

(a) a vinyl halide resin;

(b) a mono- or diorganotin compound wherein at least one
atom bonded to tin is sulfur, the sulfur being selected from the
group consisting of the residue of a mercaptan, the residue of a
mercapto acid, the residue of a mercapto alcohol, and the
residue of a mercapto alcohol ester; and

(c) a mercapto alkanol ester of a monocarboxylic acid
having the formula:

RCOOR'SH

wherein R is a linear or branched alkyl or alkenyl, aryl or
aralkyl containing at least two carbon atoms; and R' designates
a C₂ to C₁₈ alkylene.

At line 1 of claims 94 and 95, delete "93" and substitute
therefore -- 85 --.

102. (Amended) A composition comprising [:] a product
produced by mixing:

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(i) a mono- or diorganotin compound wherein at least one atom bonded to tin is sulfur, the sulfur being selected from the group consisting of the residue of a mercaptan, the residue of a mercapto acid, the residue of a mercapto alcohol, and the residue of a mercapto alcohol ester; and

(ii) a mercapto alkanol ester of a monocarboxylic acid having the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

At line 1 of claim 111, delete "110" and substitute therefore -- 102 --.

F4

119. (Amended) A method of stabilizing a vinyl halide resin comprising the steps of:

(a) adding to the vinyl halide resin a mono- or diorganotin compound wherein at least one atom bonded to tin is sulfur, the sulfur being selected from the group consisting of the residue of a mercaptan, the residue of a mercapto acid, the residue of a mercapto alcohol, and the residue of a mercapto alcohol ester; and

(b) adding to the vinyl halide resin a mercapto alkanol ester of a monocarboxylic acid having the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene;

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the mono- or diorganotin compound and the mercapto alkanol ester of a monocarboxylic acid being present in an amount effective to stabilize the vinyl halide resin.

At line 1 of claims 128 and 129, delete "127" and substitute therefore -- 119 --.

F6

134. (Amended) A method of stabilizing a vinyl halide resin comprising the step of [:] adding to the vinyl halide resin in an amount effective to stabilize the vinyl halide resin a product produced by mixing:

(a) a mono- or diorganotin compound wherein at least one atom bonded to tin is sulfur, the sulfur being selected from the group consisting of the residue of a mercaptan, the residue of a mercapto acid, the residue of a mercapto alcohol, and the residue of a mercapto alcohol ester; and

(b) a mercapto alkanol ester of a monocarboxylic acid having the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

At line 1 of claims 143, 144 and 146, delete "142" and substitute therefore -- 134 --.

Add new claims 192 to 233:

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192. A composition comprising:

(a) a mono- or di- organotin compound selected from the group consisting of di-n-octyltin bis-(isooctyl mercapto acetate); di-n-butyltin bis-(isooctyl mercapto acetate); a

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mixture of an anhydride of thiobutyl stannic acid with di-n-butyltin bis-(isodecyl mercapto acetate); and a condensation polymer of butyl stannic acid and butyl thiostannic acid; and

(b) a mercapto alkanol ester of a monocarboxylic acid.

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CONT.
H 193. The composition of claim ²³⁷~~192~~, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

H 194. The composition of claim ²³⁷~~192~~, wherein R contains 6 to 38 carbon atoms.

H 195. The composition of claim ²³⁷~~192~~, wherein R contains 8 to 18 carbon atoms.

H 196. The composition of claim ²³⁷~~192~~, wherein R contains 2 to 6 carbon atoms.

H 197. The composition of claim ²³⁷~~192~~, the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

H 198. The composition of claim ²³⁷~~192~~, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group consisting of mercapto ethyl stearate, 3-thio-glyceryl myristate, mercapto ethyl palmitate and mercapto ethyl myristate.

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199. A vinyl halide resin composition comprising:

(a) a vinyl halide resin;

(b) a mono- or di-organotin compound selected from the group consisting of di-n-octyltin bis-(isooctyl mercapto acetate); di-n-butyltin bis-(isooctyl mercapto acetate); a mixture of an anhydride of thiobutyl stannic acid with di-n-butyltin bis-(isodecyl mercapto acetate); and a condensation polymer of butyl stannic acid and butyl thiostannic acid; and

(c) a mercapto alkanol ester of a monocarboxylic acid.

200. The vinyl halide resin composition of claim ²³⁹~~199~~, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

201. The vinyl halide resin composition of claim ²³⁹~~199~~, wherein R contains 6 to 38 carbon atoms.

202. The vinyl halide resin composition of claim ²³⁹~~199~~, wherein R contains 8 to 18 carbon atoms.

203. The vinyl halide resin composition of claim ²³⁹~~199~~, wherein R contains 2 to 6 carbon atoms.

204. The vinyl halide resin composition of claim ²³⁹~~199~~, the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

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H 205. The vinyl halide resin composition of claim ²³⁹~~199~~, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group consisting of mercapto ethyl stearate, 3-thio-glyceryl myristate, mercapto ethyl palmitate and mercapto ethyl myristate.

H 206. The vinyl halide resin composition of claim ²³⁹~~199~~, wherein the mercapto alkanol ester of a monocarboxylic acid is present in the range of 0.1 % wt. to 5 % wt. of the vinyl halide resin.

207. The vinyl halide resin composition of claim ²³⁹~~199~~, wherein the vinyl halide resin is polyvinyl chloride.

208. A composition comprising a product produced by mixing:

(a) a mono- or di-organotin compound selected from the group consisting of di-n-octyltin bis-(isooctyl mercapto acetate); di-n-butyltin bis-(isooctyl mercapto acetate); a mixture of an anhydride of thiobutyl stannic acid with di-n-butyltin bis-(isodecyl mercapto acetate); and a condensation polymer of butyl stannic acid and butyl thiostannic acid; and

(b) a mercapto alkanol ester of a monocarboxylic acid.

H 209. The composition of claim ²⁴¹~~208~~, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

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210. The composition of claim ²⁴¹208, wherein R contains 6 to 38 carbon atoms.

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211. The composition of claim ²⁴¹208, wherein R contains 2 to 6 carbon atoms.

H

212. The composition of claim ²⁴¹208, the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

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CONT. H

213. The composition of claim ²⁴¹208, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group consisting of mercapto ethyl stearate, 3-thio-glyceryl myristate, mercapto ethyl palmitate and mercapto ethyl myristate.

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214. The composition of claim ²⁴¹208, further comprising a vinyl halide resin.

215. The composition of claim 214, wherein the product produced by mixing the organotin compound and the mercapto alkanol ester of a monocarboxylic acid are present in an amount effective to stabilize the vinyl halide resin against heat or light.

216. The composition of claim 214, wherein the mercapto alkanol ester of a monocarboxylic acid is present in the range of 0.1 % wt. to 5 % wt. of the vinyl halide resin.

217. The composition of claim 214, wherein the vinyl halide resin is polyvinyl chloride.

218. A method of stabilizing a vinyl halide resin comprising the steps of:

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(a) adding to the vinyl halide resin a mono- or di-organotin compound selected from the group consisting of di-n-octyltin bis-(isooctyl mercapto acetate); di-n-butyltin bis-(isooctyl mercapto acetate); a mixture of an anhydride of thiobutyl stannic acid with di-n-butyltin bis-(isodecyl mercapto acetate); and a condensation polymer of butyl stannic acid and butyl thiostannic acid; and

(b) adding to the vinyl halide resin a mercapto alkanol ester of a monocarboxylic acid.

219. The method of claim ²⁴³~~218~~, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

220. The method of claim ²⁴³~~218~~, wherein R contains 6 to 38 carbon atoms.

221. The method of claim ²⁴³~~218~~, wherein R contains 8 to 18 carbon atoms.

222. The method of claim ²⁴³~~218~~, wherein R contains 2 to 6 carbon atoms.

223. The method of claim ²⁴³~~218~~, the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

224. The method of claim ²⁴³~~218~~, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group

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consisting of mercapto ethyl stearate, 3-thio-glyceryl myristate, mercapto ethyl palmitate and mercapto ethyl myristate.

H 225. The method of claim ²⁴³218, wherein the vinyl halide resin is polyvinyl chloride.

226. A method of stabilizing a vinyl halide resin comprising the step of adding to the vinyl halide resin in an amount effective to stabilize the vinyl halide resin a product produced by mixing:

(a) a mono- or di- organotin compound selected from the group consisting of di-n-octyltin bis-(isooctyl mercapto acetate); di-n-butyltin bis-(isooctyl mercapto acetate); a mixture of an anhydride of thiobutyl stannic acid with di-n-butyltin bis-(isodecyl mercapto acetate); and a condensation polymer of butyl stannic acid and butyl thiostannic acid; and

(b) a mercapto alkanol ester of a monocarboxylic acid.

H 227. The method of claim ²⁴⁵226, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

H 228. The method of claim ²⁴⁵226, wherein R contains 6 to 38 carbon atoms.

H 229. The method of claim ²⁴⁵226, wherein R contains 8 to 18 carbon atoms.